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**Tan et al.**

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(54) **METHODS FOR FORENSIC DNA  
QUANTITATION**

(56) **References Cited**

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(65) **Prior Publication Data**

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(57) **ABSTRACT**

Described herein are methods and devices for nucleic acid quantification and, in particular, to microfluidic methods and devices for nucleic acid quantification. In certain embodiments methods of quantifying a target nucleic acid without the need for amplification are provided. The methods involve, in some embodiments, allowing a binding agent to become immobilized with respect to the target nucleic acid. In some cases, the binding agent comprises a signaling moiety that can be used to quantify the amount of target nucleic acid. In another aspect, the quantification can be carried out rapidly. For example, in certain embodiments, the quantification can be completed within 5 minutes. In yet another aspect, samples containing a low amount of target nucleic acid can be quantified. For instance, in some cases, samples containing less than 100 nanograms per microliter may be quantified. Also described are devices and kits for performing such methods, or the like.

**Related U.S. Application Data**

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(52) **U.S. Cl.**

CPC ..... **C12N 15/1017** (2013.01); **C12Q 1/6816**  
(2013.01); **B01L 3/5027** (2013.01); **B01L 7/52**  
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(58) **Field of Classification Search**

None

See application file for complete search history.

**90 Claims, 27 Drawing Sheets**

